What is claimed is:

1. A method of guiding one or more non-atomic particles confined inside a laser beam, the method comprising confining the particles inside the laser beam and directing the laser beam into a hollow portion of an optical conductor, wherein the particles confined inside the laser beam are guided by the laser beam propagating inside the hollow portion.

2. The method of Claim 1, further comprising providing a source of the particles before confining the particles inside the laser beam.

3. The method of Claim 1, further comprising an optical system for focusing the laser beam before confining the particles inside the beam.

4. The method of Claim 1, wherein directing the laser beam into the hollow portion of the optical conductor comprises directing the beam into a through channel of an optical fiber.

5. The method of Claim 1, wherein directing the laser beam comprises coupling the beam into the hollow portion in such a way that the beam propagates along the hollow portion substantially along a longitudinal axis of the optical conductor.

6. The method of Claim 1, wherein the hollow portion is filled with a gas or a liquid.

7. The method of Claim 1, wherein one or more particles are liquid or solid.

8. The method of Claim 1, wherein one or more particles are made of one material.

9. The method of Claim 1, wherein one or more particles are made of two or more materials.

10. The method of Claim 1, wherein a linear size of the particles is about 10 nm or larger.

11. A method of depositing a particle onto a substrate, the method comprising:

confining the particle inside a laser beam, the particle having a dimension larger than a wavelength of the laser beam;

directing the laser beam into a through channel of an optical conductor;

transporting the particle through the channel by causing the laser beam to propagate along the channel; and

causing the laser beam to exit the through channel and deposit the particle onto the substrate.

12. The method of Claim 11, further comprising providing a source generating the particle to be deposited onto the substrate.

13. The method of Claim 11, further comprising using the steps of Claim 8 to deposit a plurality of particles onto the substrate.

14. The method of Claim 13, further comprising moving the substrate to allow deposition of the particles onto different spots on the substrate.

15. The method of Claim 11, wherein causing the laser beam to exit the through channel and deposit the particle onto the substrate comprises depositing the particle onto a predetermined spot on the substrate.

16. The method of depositing a material onto a substrate, the method comprising:

providing a solution containing the material;

transforming at least a portion of the solution into a plurality of non-atomic droplets of the material near a first opening of an optical conductor having a through channel;

confining the droplets inside a laser beam while directing the beam toward the first opening;

transporting the droplets inside the through channel from the first opening to a second opening of the optical conductor by causing the laser beam with the confined droplets to propagate between the first and the second openings in the through channel; and

depositing the droplets of the material onto the substrate after the laser beam exits the second opening of the optical conductor.

17. The method of Claim 16, wherein the substrate is selected from the group consisting of metals, alloys, insulators, semiconductors, polymers, and biological material.

18. The method of Claim 16, wherein the material is selected from the group consisting of metals, alloys, dielectrics, semiconductors, liquids and biological material.

19. The method of Claim 16, wherein the droplet size is larger than about 10 nm.

20. A method for depositing a material onto a substrate, the method comprising:

providing one or more particles;

confining one or more particles inside a laser beam while directing the beam toward a first opening;

transporting one or more particles inside the through channel from the first opening to a second opening of the optical conductor by causing the laser beam with the confined one or more particles to propagate between the first and the second

opening to a second opening of the optical conductor by causing the laser beam with the confined one or more particles to propagate between the first and the second openings in the through channel;

treating one or more particles while transporting them inside the through channel, thereby providing the material for deposition; and

depositing the material onto the substrate after the laser beam exits the second opening of the optical conductor.

21. The method of Claim 20, wherein treating one or more particles comprises chemical or thermal treatment.

22. The method of Claim 20, wherein providing one or more particles comprises providing one or more liquid droplets.

23. The method of Claim 22, wherein providing one or more liquid droplets comprises:

providing a solution by dissolving the material in a solvent; and

transforming the solvent into one or more liquid droplets.

24. The method of Claim 20, wherein one or more particles are larger than about 10 nm in size or 10^{-21} liters in volume.

25. The method of Claim 20, wherein one or more particles comprises a liquid portion and a solid portion.

26. The method of Claim 20, wherein the solid portion is the material deposited onto the substrate.

27. A method of confining a particle inside a through channel of an optical conductor, the method comprising:

through a first opening of the optical conductor;

directing a second laser beam into the channel through a second opening of the optical conductor; and

confining the particle inside the channel by causing the first and the second laser beams to propagate toward each other inside the channel.

28. The method of Claim 27, wherein the optical conductor is horizontal and wherein the first and the second openings are disposed opposite to each other.

29. The method of Claim 27, further comprising changing an intensity of both of the laser beam or changing an intensity of one of the laser beams to change a position of the confined particle inside the channel.

30. A method of confining a particle inside a hollow portion of a optical conductor, the method comprising:

confining the particle inside a laser beam;

directing the laser beam with the confined particle into the hollow portion through a first opening of the optical conductor; and

transporting the particle inside the hollow portion by causing the laser beam to propagate inside the hollow portion until a velocity of the particle reduces to about zero.

31. The method of Claim 30, wherein the optical conductor is substantially vertical.

32. The method of Claim 20, further comprising causing the laser beam to exit the optical conductor through a second opening.

33. An apparatus for guiding one or more particles inside a hollow portion of an optical conductor, the apparatus comprising:

the optical conductor having a first opening; and

a laser beam capable of entering the hollow portion of the optical conductor through the first opening and propagating inside the hollow portion while guiding one or more particles confined inside the laser beam, the size of one or more particles being larger than an atomic size.

34. The apparatus of Claim 33, further comprising a source providing one or more particles.

35. The apparatus of Claim 33, further providing an optical system for focusing the laser beam.

36. The apparatus of Claim 33, wherein the laser beam exits the optical conductor through a second opening.

37. The apparatus of Claim 33, wherein the hollow portion is a through channel.

38. The apparatus of Claim 33, wherein the hollow portion is filled with a liquid or gaseous medium.

39. An apparatus for deposition one or more particles onto a substrate, the apparatus comprising:

an optical conductor having a through channel;

a laser beam capable of entering the channel through a first opening and propagating inside the channel while guiding one or more particles confined inside the laser beam; and

the substrate disposed to allow the laser beam exiting the channel through a second opening to contact the substrate.

40. The apparatus of Claim 39, wherein the first and the second openings are located at the two opposite ends of the optical conductor.

41. The apparatus of Claim 39, wherein one or more particles are larger than about 10 nm in size or 10^{-21} liters in volume.

42. The apparatus of Claim 39, wherein the substrate comprises a plurality of locations onto which the particles can be deposited.